

**REMARKS / ARGUMENTS****Status of the Claims:**

Claims 1-3 are currently pending. Claim 1 has been amended to include the subject matter of claim 4, which has been canceled. Claims 5-12, which were previously withdrawn, have been canceled. Applicants reserve the right to prosecute the subject matter of these claims in a divisional application.

**Claim Objections**

Claims 1-2 and 4 have been objected to for grammatical informalities. Claims 1-2 have been appropriately amended as suggested by the Examiner and claim 4 has been canceled.

**Rejections under 35 U.S.C. §112**

Claims 1-4 have been rejected under have been rejected under 35 U.S.C. §112, second paragraph as indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Applicants respectfully submit that the amendment of claims 1-3 obviates these grounds of rejection. With respect to the rejection of claim 4, applicants respectfully traverse.

Claim 1 now includes the subject matter of claim 4 which was rejected as indefinite for including the phrase "wherein the orifice has a cross-sectional area substantially the same as that area of a circular cross-section spinneret capillary having a radius R." Specifically, the Examiner asserts that "the term 'substantially' due to lack of background in the disclosure, does not set forth a clear difference acceptable for the two areas." Office Action dated May 2, 2006, page 4, lines 3-4. Applicants respectfully traverse.

Applicants respectfully submit that the subject matter of all claims must be considered within the context of the invention. In the present invention, the orifice has an area which necessarily will be greater than  $\pi R^2$  but less than  $\pi R^2$ . By including the provisions that the area of the orifice will be substantially the same as  $\pi R^2$  and that the orifice is capable of producing a

single filament of circular cross sectional shape, it is clear that the radially arranged legs of the orifice are relatively small, and that the area of the orifice could not significantly differ from  $\pi R^2$ . It is within the skill of those of ordinary skill in the art to determine the respective lengths  $R$  and  $r$  which will provide a filament of a circular cross sectional shape. Considering that the cross sectional shape of the filament is determined by the cross sectional profiled shape of the extrusion orifice, those of ordinary skill in the art would easily recognize that in order to provide a filament of a circular cross section, the orifice must also be substantially circular, i.e., having an orifice of substantially the same area as  $\pi R^2$ .

Since the meaning of the term "substantially" in the context of the present invention would be immediately discernable to those of ordinary skill in the art, Applicants respectfully submit that the term is sufficiently definite as provided in Claim 1. Reconsideration and withdrawal of the rejection under Section 112 is, therefore, appropriate and respectfully requested.

#### **Rejections under 35 U.S.C. §102**

Currently pending claims 1-3 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,673,442 to Johnson et al. ("Johnson"). This rejection is respectfully traversed.

Johnson discloses polymer filaments having a multi-lobal cross-section. The multi-lobal cross-section results from the multi-lobal configuration of the spinneret capillaries as shown in FIG.1a-1c. Johnson provides no disclosure of a filament having a circular cross-section as in claim 1 of the present invention. Furthermore, Johnson fails to disclose the spinneret orifice having substantially the same area as  $\pi R^2$ . Given that the size of the lobes of the spinneret provide one factor in determining the shape of the filament, as set forth by Edie (U.S. Patent No. 5,154,908) Column 7, lines 56-61, one of skill in the art would recognize that the multi-lobal spinneret orifice of Johnson would not provide a circular filament as in the present invention. Since Johnson fails to disclose every element of the present claims, reconsideration and withdrawal of the rejections under Section 102 are appropriate and respectfully requested.

Claims 1-3 have also been rejected under 35 U.S.C. §102(b) as being anticipated by Edie or U.S. Patent No. 4,221,755 to Wellenhofer et al. ("Wellenhofer"). These rejections are respectfully traversed.

Edie discloses carbon fibers having a multi-lobal transverse cross-section which are prepared through the use of a multi-lobal spinneret capillary. Edie fails to disclose a filament having a circular cross-section and fails to disclose a spinneret orifice having substantially the same area as  $\pi R^2$  as in claim 1 of the present invention. Although Edie does disclose that the surface tension of carbon fibers leads to a tendency of carbon fibers to have a circular filament cross-section, Edie specifically teaches how to overcome this effect. One way that Edie has recognized to overcome this effect is to provide a spinneret capillary having longer and thinner lobes. Such a spinneret capillary would be contrary to those of the present invention which have a spinneret orifice that has substantially the same area as  $\pi R^2$ .

Since Edie provides no disclosure of a spinneret capillary which will produce a circular cross-sectional filament, no disclosure of a spinneret orifice having substantially the same area as  $\pi R^2$ , and specifically teaches away from the preparation of a filament having a circular cross-section, Applicants submit that Edie fails as a proper reference under Section 102. Therefore, reconsideration and withdrawal of the rejections under Section 102 are appropriate and respectfully requested.

With respect to Wellenhofer, the reference is similarly deficient in disclosing a filament having a circular cross-section and fails to disclose a spinneret orifice having substantially the same area as  $\pi R^2$  as in claim 1 of the present invention. Although, Wellenhofer actually attempts to prepare such a circular filament, the filaments prepared through the methods of Wellenhofer fail to achieve a circular cross-section as shown in the examples wherein the filaments deviate from circularity from 2.8% to 8% where the deviation is clearly visible. Column 3, lines 23-24. Accordingly, reconsideration and withdrawal of the rejections under Section 102 in view of Wellenhofer are appropriate and respectfully requested.

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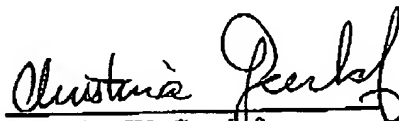
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### CONCLUSION

For the reasons stated above, claims 1-3 are believed to be in condition for allowance. Accordingly, Applicant respectfully requests that the Application be allowed. If prosecution may be further advanced, the Examiner is invited to telephone the undersigned to discuss this application.

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Respectfully submitted,



Christina W. Geerlef  
Attorney for Applicants  
Registration No.: 45,690  
Telephone: 302 683-3314  
Facsimile: 302 683-3473